



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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January 7, 1994

Mr. Alan Wilson
Senior Reclamation Engineer
Hecla Mining Company
6500 Mineral Drive
Box C-8000
Coeur d'Alene, Idaho 83814-1931

Re: Supplemental Information - Capillary Barrier, Escalante Tailings Impoundment, Escalante Silver Mine, M/021/004, Iron County, Utah

Dear Mr. Wilson:

We have evaluated the supplemental information which you provided by letter dated December 29, 1993, concerning the proposed 6-inch capillary barrier construction for the Escalante Tailings Impoundment. The following comments are provided in response to your proposal:

The present design plan does not propose using a more typical "layered" (fines-coarse-fines) capillary barrier construction approach, or a "geo-fabric" interface to isolate/separate the upper (subsoil) and lower (tailings) material from the coarser wasterock material. Therefore, a primary concern with the proposed 6-inch thickness is the increased probability of fines migration into the capillary barrier at the lower (tailings-wasterock) and upper (subsoil-wasterock) interfaces which could jeopardize the overall effectiveness of the barrier. The physical impacts of compaction of the capping materials during their emplacement by heavy construction equipment, will increase the likelihood of fines migration into the barrier layer, regardless of the care used in assuring a uniform 6-inch thickness.

Consequently, it is our position that without the use of additional engineered design considerations similar to those outlined above, a 6-inch capillary layer will not be adequate to assure its overall effectiveness in this large scale application. Therefore, our previous requirement for a minimal 10-inch thickness for the wasterock capillary barrier remains.

If you have questions or additional concerns, please contact me at your convenience.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Reclamation Program

jb
cc:

Lowell Braxton, DOGM
Don Ostler, DWQ
Arthur Tait, BLM, Beaver River RA